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Progress Report PTR-1043-77-7
Contract No. MDA903-77-C-0039
For the Period May 1, 1977-June 30, 1977
July 1977

COMPARATIVE STUDIES OF ORGANIZATIONAL FACTORS IN MILITARY MAINTENANCE

KENNETH L. DRAKE
MARK S. SANDERS
WILLIAM H. CROOKS
GERSHON WELTMAN

Prepared For
CYBERNETICS TECHNOLOGY OFFICE
Defense Advanced Research Project Agency
1400 Wilson Boulevard
Arlington, Virginia 22209

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| This report describes progress in a research program comparing organizational factors in military and civilian maintenance organizations. The research focuses on the incentives and disincentives such as system characteristics, policies and procedures which directly impact upon the work motivation of maintenance personnel. The report includes (1) an overview of the program, including a statement of the problem, background, objectives and technical (continued) over | | |

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approach; and (2) a description of the data collection survey instruments developed for the research program. Two categories of instruments ~~have been~~ ^{were} developed: ~~for the research program~~. On the one hand, questionnaires and interviews were used to obtain subjective information regarding self-view of job, job satisfaction, and organizational structure; ~~On the other hand,~~ and (2) objective instruments were used to measure performance and work loads within maintenance organizations.

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1. SUMMARY

1.1 Report Period

Contract activity to date has involved two phases of effort. The first work phase involved establishing contact and meeting with several military and civilian helicopter organizations, performing computer-based literature reviews of organizational influences of maintenance personnel productivity and satisfaction, developing a model of organizational incentives and effectiveness, and initiating a plan for acquiring comparative field data on organizational incentives and policies for military and civilian maintenance organizations.

The second phase of the research program, described in detail in this report, concentrated on development of data collection instruments and acquisition of comparative field data on incentives in military and civilian maintenance organizations. In addition, an analysis was initiated of Israeli military maintenance practices. The specific items of work included:

- (1) Development of subjective and objective data collection instruments.
- (2) Selection of representative samples of military and civilian maintenance organizations in which comparative field data can be acquired.
- (3) Identification of specific personnel to be surveyed within each sampled organization.
- (4) Acquisition of subjective and objective comparative field data.
- (5) Initiation of analysis of Israeli military maintenance organizations.

1.2 Next Period

The contract activity for the next phase of the research program will include:

- (1) Analysis and reduction of the acquired comparative field data.
- (2) Completion of the survey of Israeli maintenance practices.
- (3) Preparation of the year-end technical report.
- (4) Development of the hypotheses and research program for the subsequent work effort.

1.3 Program Plan and Schedule

A program review chart for the present year's effort is shown in Figure 1-1. The chart shows the interdependencies and the expected completion time for each program milestone.

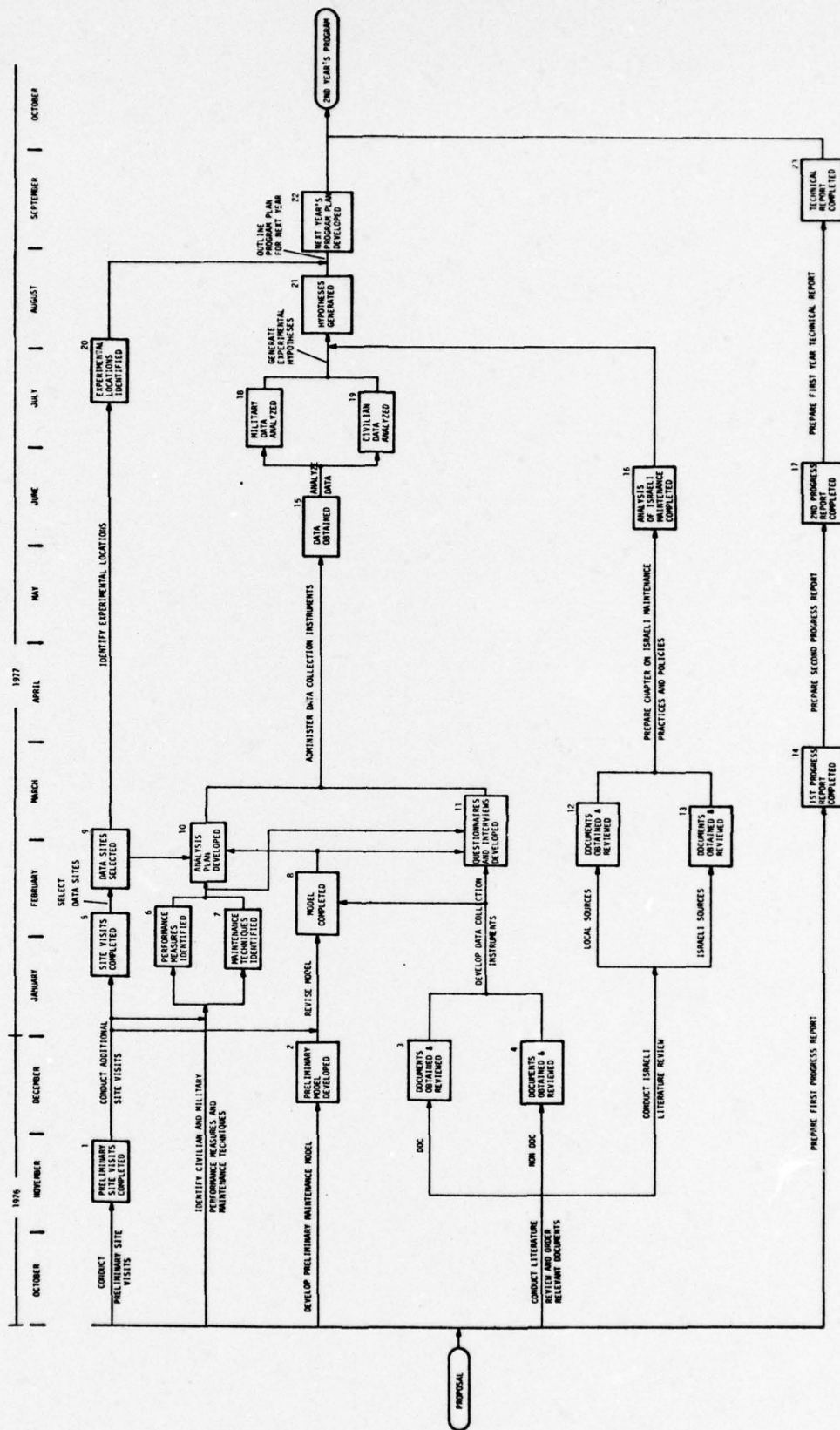


FIGURE 1. PROGRAM SCHEDULE

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2. PROGRAM OVERVIEW

2.1 Problem Background

The role of the Department of Defense is to provide for the national security of the United States. The requirements to maintain national security have changed drastically since the days when only a relatively small military force existed and very little equipment was available in the military inventory. For example, in the 1930's, the top speed of the nearly 1000 aircraft in the Army Air Corps' inventory was about 200 miles per hour. A relaxed attitude prevailed among defense planners, and it was generally assumed that a year or two would be available to the United States to mobilize both people and industry to meet any hostile challenge.

Drastic changes, however, have occurred within the world situation over the intervening decades. A great many more men are now involved in the defense of the Nation and in the maintenance of an all-services inventory of thousands of aircraft, missiles, and other systems. At the same time, the quantity and capabilities of military weapons of other nations has also increased, and the United States is no longer isolated from direct or surprise attack. In the environment of today's world, the time available for mobilization of military forces has been reduced from years and months to perhaps as little as a few hours. As we cannot delay mobilization until after hostilities have begun, it is necessary for military forces to maintain a constant state of readiness and to be capable of responding rapidly to any situation. The multitude of situations into which the military can be called, coupled with the mix of weapons and hardware required to counter those situations, makes the success of any modern day military mission dependent on the continued

readiness of military equipment. Military equipment readiness is thus a fundamental element in the defense of the Nation. The role of maintenance forces within the Department of Defense, accordingly, is to sustain equipment in a state of operational readiness consistent with the demands of the operating forces, and to do this at the lowest possible cost.

The costs of maintenance have grown tremendously in recent years. Although no accounting systems exist in any of the military services which accurately reflect the full dimensions of maintenance, most observers agree that 30% to 40% of all military personnel are involved in one or another maintenance function, and that 20% to 30% of the DOD budget is devoted to maintenance activities. Another way to state the case is to note that more military money is devoted toward maintaining currently owned equipment than is directed toward acquiring new equipment.

In addition to being a large proportion of the military's day-to-day activities, it is well recognized that current systems of military maintenance fall far short of optimum performance. Even where maintenance is effective, in the sense of keeping equipment operationally ready, it is inefficient in terms of personnel, material, and time. To many, it seems that the rapid growth in equipment complexity has outstripped the ability of the system to prepare and orient maintenance personnel. As a result, virtually all recent attempts at improving maintenance have focused on two areas: (1) improving technician skills, primarily through training, and (2) providing on-the-job aids, primarily manuals and other technical devices (King and Duva, 1975). Research and development in these areas has emphasized new types of equipment, and there has been only a limited effect on maintenance system performance (Bond, 1970). It appears that if a breakthrough is to occur in the maintenance problem, it will have to come from another direction. An approach of considerable

promise is that of investigating viable incentive structures and organizational policies as they relate to maintenance effectiveness. This is the approach being followed in the current study.

2.2 Goals and Methodology

The primary hypothesis of the present research is that organizational rewards and punishments are currently designed so that the interests of the individual are not consistent with the interests of the organization, namely cost-effective maintenance; and that a new set of organizational incentives could be designed and implemented which would quickly and significantly improve maintenance cost-effectiveness. This hypothesis is being examined by an investigation designed to systematically identify, investigate, and analyze organizational factors and incentive structures which impact on military maintenance effectiveness and efficiency.

In our work, the term "incentive" was not confined to the traditional monetary-privilege-praise concept. Instead, we have taken a broader view of incentives/disincentives and included system characteristics, policies, and procedures which appeared to impact directly on the work motivation of the maintenance personnel. Accordingly, the focus is upon those organizational factors which affect the work unit personnel and immediate supervisors who control maintenance on a day-to-day basis. The investigative approach is a comparison of military (Army and Navy) and civilian maintenance of the same helicopter (the Bell JetRanger) and a simultaneous study of organization factors affecting the quick-response capability of the Israeli Defense Forces.

The methodology used in the current comparison of U.S. military and civilian organizations combines structured sampling and investigative analysis. Structured sampling involves questionnaires and structured

interviews which are administered to samples of individuals within an organization. A preliminary incentive model of the primary maintenance team was used to generate two questionnaires and an interview guide. These instruments have been used to gather data from a number of military installations (including Ft. Hood, Ft. Ord, Pensacola Naval Air Station, etc.) and civilian companies (including Anchorage Helicopters, Arizona Helicopters, SeaAirMotive Helicopters, etc.).

The investigative analysis technique is intended to identify those characteristics of an organization which are discovered through a chance comment or discussion with members of the organization. In essence, investigative analysis is the process of "picking up a string and following it to the end." This process requires moving through the organization from level to level in an effort to uncover the rationale (or lack of it) that supports and maintains a particular organizational practice.

2.3 Objectives

The objective of this program is to systematically identify, investigate, and analyze organizational factors and incentive structures which impact on military maintenance effectiveness and efficiency. This will be accomplished by performing an in-depth analysis of military, civilian and Israeli maintenance organizations. The civilian and Israeli sources will provide comparisons from which testable hypotheses will be generated. These hypotheses will be aimed at improving military maintenance.

A secondary objective, although one which may have wide application, is to document the "investigative reporting" methodology which will be followed to uncover, and trace through the organization, those factors

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and practices which appear to aid or hinder maintenance effectiveness and efficiency.

The specific objectives of the present program include the following:

- (1) Survey and categorize the critical organizational and interpersonal factors which control the ability of a military maintenance system to deliver effective and efficient maintenance. Select and/or devise measures of maintenance system performance and of relevant personnel attitudes.
- (2) Establish a suitable format and methodology for investigation of primary organizational factors in military and civilian maintenance settings, with an emphasis on incentives.
- (3) Investigate a selected number of military and civilian groups maintaining an equivalent high technology system to acquire, by questionnaire and interview, comparative field data on maintenance organizational goals, structure and function, support structure, incentives, and personnel attitudes, as well as the cost effectiveness of maintenance.
- (4) Organize and analyze the field data so as to permit (a) direct comparison among U.S. systems, (b) identification of the key organizational factors contributing to good and bad system performance, and (c) selection of recommended organization approaches for subsequent experimentation.

- (5) Plan, conduct, and analyze experimental investigations of recommended new organizational approaches to evaluate their effectiveness in U.S. military settings.
- (6) Use sources of information available in the U.S. to collect data on equivalent organizational factors in the Israeli military maintenance structure. Compare these data with the U.S. data as an aid to objective (4). Devise a methodology and program plan for more detailed examination of foreign maintenance practices in a U.S. setting, to include: (a) the present effectiveness of divergent procedures on similar equipment, and (b) the potential effectiveness in the U.S. setting of innovative approaches based on outside practices.
- (7) On the basis of the experimental and analytical results, formulate guidelines and specific recommendations for the improvement of maintenance system performance.

3. ANALYZING MAINTENANCE ORGANIZATIONS

3.1 Analytic Techniques

The methodology used in the current comparison of U.S. military and civilian organizations is a combination of structured sampling and investigative analysis. Structured sampling is the technique generally used to gather data concerning organizations. This technique involves questionnaires and structured interviews which are administered to samples of individuals within an organization. Such questionnaires and interviews are designed to identify the structure of the organization (size, organization, lines of authority, etc.), the individual's perceptions of his role in the organization and biographical data of the individual. The sampling technique is intended to identify the dimensions of the organization which can be expected to exist in most groups (for example, the division of authority, number of personnel in typical work units, training of a typical work unit member, etc.).

The investigative analysis technique, on the other hand, is intended to identify those characteristics of an organization which are discovered serendipitously through a chance comment or discussion with members of the organization. In essence, investigative analysis is the process of "picking up a string and following it to the end". For example, if it is discovered that maintenance personnel are called off their jobs unpredictably to perform other duties such as burial detail, then this is traced to its source. Questions are then posed to organization members such as "Who assigns the men to other duties? Why are maintenance men selected rather than another less critical classification? Can assignments be made more predictable?" Etc.? Such questions require moving through the organization from level to level in an effort to uncover the rationale (or lack of it) that supports and maintains the organizational practice.

3.2 Initial Site Visits

To provide a basis of information from which to develop meaningful data collection instruments, several initial visits were made to selected civilian and military helicopter maintenance organizations. Initial military site visits were made to the OH-58 System Manager of the Directorate for Weapon System Management, U.S. Army Aviation Systems Command (AVSCOM), St. Louis, Missouri, and to the 7th Infantry Division at Fort Ord, Monterey, California. AVSCOM is responsible for management of the entire Army aviation fleet, including matters of aircraft acquisition, deployment effectiveness and utilization, cost and maintainability. The office of the OH-58 System Manager is specifically responsible for Army-wide maintenance data reporting, OH-58 fleet utilization, and costs of ownership.

For a preliminary view of maintenance groups and procedures in a military helicopter user organization, visits were made to Fort Ord, California. Fort Ord is the home of the 7th Infantry Division, with helicopter units classified as divisional and non-divisional units. Divisional units are integral parts of the Infantry Division and perform flight operations as part of the Division's missions and activities. Non-divisional units are assigned to the military post rather than the division itself, and perform general flight operations associated with post activities. In addition, the non-divisional units can be called upon to support and supplement divisional units.

Initial visits to four civilian helicopter organizations provided preliminary observations of maintenance practices by civilian users. Considerations of maintainability in the OH-58/206 design and maintenance technical support services were identified in a visit with the OH-58/206

helicopter manufacturer, Bell Helicopter Company, Ft. Worth, Texas. Visits with the Bell Helicopter Company Service Center, Van Nuys, California, and with the Los Angeles Department of Transportation, Van Nuys, California, and Arizona Helicopters, Inc., Scottsdale, Arizona, provided information on maintenance organizations and procedures from the point-of-view of civilian helicopter users and owners.

3.3 Data Collection Instruments

3.3.1 Overview. Based on the information obtained through discussions held during the initial site visits, both subjective and objective data instruments were designed. These instruments were tailored to characteristics of the maintenance organizations, including the terminology used by the personnel and the data records used by the organizations. Subjective instruments, including both questionnaires and interviews were used to identify the characteristics of the maintenance organizations (structure, incentives, etc.) as well as the members' own impressions of their jobs. Objective instruments in the form of summary tables were used to obtain estimates of available manpower and workloads.

Following the development of all data collection instruments, visits were conducted at several military and civilian user sites; these are listed in Table 3-1. At each site, structured interviews were conducted with maintenance supervisory personnel. The questions used in these interviews are shown in Appendix A. Two questionnaires were also administered during these site visits. The questionnaires were (1) the Organizational Incentives Inventory and (2) the Effectiveness Criteria Rating. The Weekly Performance Summary was given to the workload supervisor of each organization.

Table 3-1. DATA ACQUISITION SUMMARY

| | <u>Supervisor Interviews</u> | <u>Organizational Incentive Inventory</u> | <u>Effectiveness Criteria Rating</u> | <u>Weekly Performance Summary</u> |
|---|----------------------------------|---|--|---|
| <u>Military</u> | | | | |
| III Corps Fort Hood Killeen, Texas | 10 | 58 | 11 | 18 |
| 7th Infantry Div. Fort Ord Monterey, California | 8 | 59 | 18 | 13 |
| Helicopter Training Sqdn 8 Naval Air Station Pensacola, Florida | <u>4</u> 22 | <u>28</u> 145 | <u>3</u> 32 | <u>7</u> 38 |
| <u>Civilian</u> | | | | |
| ERA Anchorage, Alaska | 2 | 5 | | |
| Anchorage Helicopters Anchorage, Alaska | 2 | 0 | | |
| SeaAirmotive Anchorage, Alaska | 2 | 5 | | |
| Arizona Helicopters Scottsdale, Arizona | 2 | 11 | | |
| Bureau of Transportation Los Angeles, California | <u>2</u> 10 | <u>9</u> 30 | | |

3.3.2 Organizational Incentive Inventory. This questionnaire was given to the maintenance personnel in all organizations. Section 1 of the questionnaire asks for basic biographical information. Sections 2,3,4,5, and 6 are the short form of the Job Description Survey (JDS) developed by Hackman and Olds (1974). Section 7 of the inventory asks the respondent to rate the degree to which various training experiences were helpful in providing skills and information necessary to successfully perform their job. Section 8 attempts to assess the perceived relationship between performance (outstanding or poor) and various consequences (good and bad). Different items are included in the military and civilian forms. Section 9 contains 51 items missed in the previous 8 sections of the inventory.

The JDS portion itself assesses the following 7 job dimensions and 8 satisfaction/motivation components:

- (1) Skill Variety. The degree to which a job requires a variety of different activities in carrying out the work, which involves the use of a number of different skills and talents of the employee.
- (2) Task Identity. The degree to which the job requires completion of a "whole" and identifiable piece of work -- i.e., doing a job from beginning to end with a visible outcome.
- (3) Task Significance. The degree to which the job has a substantial impact on the lives or work of other people -- whether in the immediate organization or in the external environment.

- (4) Autonomy. The degree to which the job provides substantial freedom, independence, and discretion of the employee in scheduling the work and in determining the procedures to be used in carrying it out.
- (5) Feedback from the Job Itself. The degree to which carrying out the work activities required by the job results in the employee obtaining direct and clear information about the effectiveness of his or her performance.
- (6) Feedback from Agents. The degree to which the employee receives clear information about his or her performance from supervisors or from co-workers. (This dimension is not, strictly speaking, a characteristic of the job itself. It is included to provide information to supplement that provided by the Feedback from the Job Itself dimension.)
- (7) Dealing with Others. The degree to which the job requires the employee to work closely with other people in carrying out the work activities (including dealings with other organization members and with external organizational "Clients").
- (8) General Satisfaction. An overall measure of the degree to which the employee is satisfied and happy with the job.
- (9) Internal Work Motivation. The degree to which the employee is self-motivated to perform effectively on the job -- i.e., the employee experiences positive internal feelings when working effectively on the job, and negative internal feelings when doing poorly.

- (10) Satisfaction with Job Security.
- (11) Satisfaction with Pay and Other Compensation.
- (12) Satisfaction with Peers and Co-Workers (Social).
- (13) Satisfaction with Supervision.
- (14) Satisfaction with Opportunities for Personal Growth and Development on the Job (Growth).
- (15) Growth Need Strength. Taps the strength of the respondent's desire to obtain growth satisfaction from his or her work.

Hackman and Olds (1974) have shown the JDS to be a reliable and valid measure of these job and satisfaction dimensions.

The complete inventory was administered to 30 civilian and 145 military mechanics. In the military, this included both crew chiefs and DS-level mechanics. Both crew chiefs and DS mechanics will henceforth be referred to simply as "mechanics". A copy of the Organizational Incentives Inventory is included in Appendices B1 and B2.

3.3.3 Effectiveness Criteria Rating. It was postulated that supervisors at different levels of an organization may have different models of how to define organizational effectiveness. It is possible, for example, that as we move up the organization, global criteria, such as availability of helicopters, become more important than specific criteria, such as turnover among personnel, waste (good parts replaced),

or down time. Differences in definition and criteria, if they exist, may account for discrepancies in goals and procedures. The second questionnaire was designed to assess the relative importance placed on various criteria of effectiveness by three supervisory levels in the military maintenance organization; these were defined as follows:

Level 1: Commanding Officer. Duties of people at this level are to overview the maintenance activities in terms of accomplishing the overall mission, rather than directly supervising the day-to-day maintenance activities on the line.

Level 2: Maintenance Officer. People at this level are involved with the day-to-day problems of accomplishing maintenance. Their duties are to supervise maintenance activities and communicate with commanding officers concerning the overall effectiveness of their unit.

Level 3: Maintenance Supervisors. People at this level are non-commissioned officers responsible for the immediate activity of the mechanics. They assign tasks and check on the quality of the work being done.

Each respondent was asked to rate, on an eight point scale, how important each of 24 criteria would be in his/her evaluation of the overall effectiveness of a helicopter maintenance unit. First, all the criteria were rated under the assumption of peacetime conditions, then all the criteria were rerated under the assumption of wartime conditions. A total of 6 questionnaires were obtained from Level 1 personnel, 10 from Level 2 and 4 from Level 3. Civilians did not complete this questionnaire. A copy of the Effectiveness Criteria Rating is contained in Appendix C.

In addition to the survey questionnaires which provided a qualitative type of information, there was a need for more quantitative information with respect to an organization's performance. The purpose of the objective data forms was to draw relationships between the subjective opinions of the mechanics with the actual performance of the unit. The Weekly Performance Summary and the DA Form 1352 Summary were developed to assess the objective data.

3.3.4 Weekly Performance Summary. This form was developed to measure the actual available manpower and daily workloads of individual military companies. It appears that units are staffed according to manpower surveys in relation to statistical data concerning how many men are required to perform maintenance on particular aircraft. Problems arise because the number of men allocated does not take into account the fact that personnel are constantly removed from their jobs to perform "other" training details. The Weekly Performance Summary form was developed to illustrate the relationship between manpower utilization and effectiveness measures. The Weekly Performance Summary form is shown in Appendix D.

3.3.5 Summary of DA Form 1352. The Department of the Army form 1352 is a monthly status report for military maintenance units, indicating operational readiness measures. Our summary form of the 1352 was developed to provide overall effectiveness measures of military maintenance units as they are reported to higher levels of command. A copy of this form is shown in Appendix E.

APPENDIX A
SUPERVISORY INTERVIEW QUESTIONNAIRE

BASE _____

MAINTENANCE UNIT _____

POSITION _____

TENURE _____

DATE _____

SUPERVISORY INTERVIEW QUESTIONS

1. Organizational chart? Number of maintenance people (supervisors, TI's, mechanics, support)? MOS's?

2. What is the relative importance given helicopter maintenance by higher levels in the organization?

3. Can you keep your people from having to do details? Do you know ahead of time when your men are going to be pulled off their job for details? Who is responsible for pulling away mechanics from aviation maintenance?

4. Where do most of your mechanics come from? Training school or reassignment? How skilled are they? Do you have any trouble getting qualified people to fill particular skill level vacancies?

5. What kind of training do they receive once assigned?

6. What factors will influence how much work you will have? P.E.'s? Unscheduled maintenance? Can you predict maintenance load? Is there free time?

7. Do the maintenance men work individually or in teams? If teams, how many per team? Competition?

8. Do the mechanics socialize off the job?

9. What are the standards of performance? How do you assess performance? Are there ratings of proficiency levels? Are there ratings of personnel evaluation?

10. How can you reward a good worker? Conversely, how can you reprimand a poor worker?

11. What is the work routine? Hours? Days? Shifts? Overtime (Comp time)?

12. How is work divided and assigned? Do mechanics generally finish the jobs they begin?

13. What maintenance paperwork is done? Mechanics? IT's? Supervisors? Is the paperwork inflated to make the men or unit look good?

14. Do the men take time off for personal matters? How often?

15. What percent of time do mechanics spend performing aviation maintenance?

16. Do the mechanics go on test flights? Flight status?

17. What are the channels of communications for personal requests?
Grievances? Advice?

18. How many men is a supervisor responsible for?

19. Do supervisors perform any maintenance or is all their time spent in leadership activities? What is the supervisors interaction with the mechanics?

20. Do the maintenance personnel get feedback about their work from their supervisors? Positive? Negative?

21. How concerned are supervisors about the neatness of the men (hair cuts, shined shoes, etc.) and work area? Inspections?

22. Do you have any problems or conflicts with groups outside your immediate unit? Other maintenance echelons? Supply? Other?

23. How easily obtainable are supplies? Cannibalization?

24. Is the equipment satisfactory? Up to date?

25. Working environment and working conditions?

26. In your opinion how do you think efficiency could be improved?
Budget? Constraints?

27. Do mechanics like working on helicopters?

28. What are the major things that you feel motivate men to do good work?

29. What things seem to annoy the mechanics the most?

30. What are the things from above that create problems for you in completing your goals?

APPENDIX B1

ORGANIZATIONAL INCENTIVES INVENTORY
(MILITARY ORGANIZATIONS)

ORGANIZATIONAL INCENTIVE INVENTORY

THIS QUESTIONNAIRE WAS DEVELOPED AS PART OF A PERCEPTRONICS STUDY OF INCENTIVES AND OTHER ORGANIZATIONAL INFLUENCES ON PERSONNEL PRODUCTIVITY AND JOB SATISFACTION.

ON THE FOLLOWING PAGES YOU WILL FIND SEVERAL DIFFERENT KINDS OF QUESTIONS ABOUT YOUR JOB. SPECIFIC INSTRUCTIONS ARE GIVEN AT THE START OF EACH SECTION. PLEASE READ THEM CAREFULLY.

THE QUESTIONS ARE DESIGNED TO OBTAIN YOUR PERCEPTIONS OF YOUR JOB AND YOUR REACTIONS TO IT.

THERE ARE NO "TRICK" QUESTIONS. YOUR INDIVIDUAL ANSWERS WILL BE KEPT COMPLETELY CONFIDENTIAL. PLEASE ANSWER EACH ITEM AS HONESTLY AND FRANKLY AS POSSIBLE.

THANK YOU FOR YOUR COOPERATION

SECTION 1

M

1. AGE AT LAST BIRTHDAY ? _____
2. SEX MALE _____ FEMALE _____
3. MARRIED? YES _____ NO _____
4. DO YOU HAVE DEPENDENT CHILDREN AT HOME? YES _____ NO _____
5. WHAT IS YOUR HIGHEST LEVEL OF EDUCATION? *check one*
DID NOT FINISH HIGH SCHOOL _____ 3-4 YEARS COLLEGE _____
HIGH SCHOOL GRADUATE _____ MORE THAN 4 YEARS COLLEGE _____
1-2 YEARS COLLEGE _____
6. DO YOU HAVE AN A & P LICENSE? YES _____ NO _____
IF NOT, DO YOU PLAN TO GET ONE? YES _____ NO _____
7. WHAT IS YOUR RANK? *check one*
PRIVATE _____ SPEC 4 _____ SPEC 5 _____ SPEC 6 _____ SPEC 7 _____
PRIVATE 1ST CLASS _____ CORPORAL _____ SGT _____ S SGT _____ SGT 1ST CLASS _____
8. TIME IN GRADE? YEARS _____ MONTHS _____
9. HOW MANY YEARS IN THE MILITARY? YEARS _____
10. WAS HELICOPTER MAINTENANCE ONE OF YOUR MILITARY CAREER CHOICES? *check one*
1ST CHOICE _____ 2ND CHOICE _____ 3RD CHOICE _____ NOT ONE OF MY CHOICES _____
11. WHAT IS YOUR MOS? *(number and description)*
PRIMARY _____
SECONDARY _____
12. DID YOU HAVE PREVIOUS EXPERIENCE WITH HELICOPTER MAINTENANCE BEFORE JOINING THE MILITARY?
YES _____ NO _____
13. HAVE YOU DONE HELICOPTER MAINTENANCE IN THE MILITARY BEFORE COMING TO YOUR PRESENT JOB?
YES _____ NO _____
14. PLEASE LIST ALL HELICOPTER TRAINING SCHOOLS/COURSES YOU HAVE ATTENDED AND THE AMOUNT OF TIME IN EACH.
- | NAME | LENGTH OF TRAINING (WEEKS) |
|-------|----------------------------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

15. How long after technical training did it take before you were proficient at your job? *check one*
IMMEDIATELY _____ 4- 6 MONTHS _____ MORE THAN 12 MONTHS _____
1-3 MONTHS _____ 7-12 MONTHS _____ STILL DO NOT FEEL PROFICIENT _____
16. Do you plan to make the military a career? Yes _____ No _____
If so, why so? If not, why not? _____

17. Do you plan to make helicopter maintenance your career either inside or outside the military?
Yes _____ No _____

SECTION 2

THIS PART OF THE QUESTIONNAIRE ASKS YOU TO
DESCRIBE YOUR JOB, AS OBJECTIVELY AS YOU CAN.

PLEASE DO NOT USE THIS PART OF THE QUESTIONNAIRE TO SHOW HOW MUCH YOU LIKE OR DISLIKE YOUR JOB.
QUESTIONS ABOUT THAT WILL COME LATER. INSTEAD, TRY TO MAKE YOUR DESCRIPTIONS AS ACCURATE AND AS
OBJECTIVE AS YOU POSSIBLY CAN.

A SAMPLE QUESTION IS GIVEN BELOW.

- A. TO WHAT EXTENT DOES YOUR JOB REQUIRE YOU TO WORK WITH MECHANICAL EQUIPMENT?

1 — 2 — 3 — 4 — 5 — 6 — 7

VERY LITTLE; THE JOB
REQUIRES ALMOST NO
CONTACT WITH MECHANICAL
EQUIPMENT OF ANY KIND.

MODERATELY

VERY MUCH; THE JOB
REQUIRES ALMOST
CONSTANT WORK WITH
MECHANICAL EQUIPMENT.

YOU ARE TO CIRCLE THE NUMBER WHICH IS THE MOST ACCURATE DESCRIPTION OF YOUR JOB.

IF, FOR EXAMPLE, YOUR JOB REQUIRES YOU TO WORK WITH MECHANICAL EQUIPMENT A GOOD DEAL
OF THE TIME -- BUT ALSO REQUIRES SOME PAPERWORK -- YOU MIGHT CIRCLE THE NUMBER SIX,
AS WAS DONE IN THE EXAMPLE ABOVE.

1. TO WHAT EXTENT DOES YOUR JOB REQUIRE YOU TO WORK CLOSELY WITH OTHER PEOPLE (IN RELATED JOBS IN
YOUR OWN ORGANIZATION)?

1 — 2 — 3 — 4 — 5 — 6 — 7

VERY LITTLE; DEALING
WITH OTHER PEOPLE IS
NOT AT ALL NECESSARY
IN DOING THE JOB.

MODERATELY; SOME
DEALING WITH OTHERS
IS NECESSARY.

VERY MUCH; DEALING
WITH OTHER PEOPLE IS
AN ABSOLUTELY ESSENTIAL
AND CRUCIAL PART OF
DOING THE JOB.

2. HOW MUCH AUTONOMY IS THERE IN YOUR JOB? THAT IS, TO WHAT EXTENT DOES YOUR JOB PERMIT YOU TO
DECIDE ON YOUR OWN HOW TO GO ABOUT DOING THE WORK?

1 — 2 — 3 — 4 — 5 — 6 — 7

VERY LITTLE; THE
JOB GIVES ME ALMOST
NO PERSONAL "SAY"
ABOUT HOW AND WHEN
THE WORK IS DONE.

MODERATE AUTONOMY;
MANY THINGS ARE
STANDARDIZED AND NOT
UNDER MY CONTROL, BUT
I CAN MAKE SOME
DECISIONS ABOUT THE
WORK.

VERY MUCH; THE JOB
GIVES ME ALMOST COMPLETE
RESPONSIBILITY FOR
DECIDING HOW AND WHEN
THE WORK IS DONE.

3. TO WHAT EXTENT DOES YOUR JOB INVOLVE DOING A "WHOLE" AND IDENTIFIABLE PIECE OF WORK? THAT IS, IS THE JOB A COMPLETE PIECE OF WORK THAT HAS AN OBVIOUS BEGINNING AND END? OR IS IT ONLY A SMALL PART OF THE OVERALL PIECE OF WORK, WHICH IS FINISHED BY OTHER PEOPLE OR BY AUTOMATIC MACHINES?

1 ————— 2 ————— 3 ————— 4 ————— 5 ————— 6 ————— 7

MY JOB IS ONLY A TINY PART OF THE OVERALL PIECE OF WORK; THE RESULTS OF MY ACTIVITIES CANNOT BE SEEN IN THE FINAL PRODUCT OR SERVICE.

MY JOB IS A MODERATE-SIZED "CHUNK" OF THE OVERALL PIECE OF WORK; MY OWN CONTRIBUTION CAN BE SEEN IN THE FINAL OUTCOME.

MY JOB INVOLVES DOING THE WHOLE PIECE OF WORK, FROM START TO FINISH; THE RESULTS OF MY ACTIVITIES ARE EASILY SEEN IN THE FINAL PRODUCT OR SERVICE.

4. HOW MUCH VARIETY IS THERE IN YOUR JOB? THAT IS, TO WHAT EXTENT DOES THE JOB REQUIRE YOU TO DO MANY DIFFERENT THINGS AT WORK, USING A VARIETY OF YOUR SKILLS AND TALENTS?

1 ————— 2 ————— 3 ————— 4 ————— 5 ————— 6 ————— 7

VERY LITTLE, THE JOB REQUIRES ME TO DO THE SAME ROUTINE THINGS OVER AND OVER AGAIN.

MODERATE VARIETY

VERY MUCH; THE JOB REQUIRES ME TO DO MANY DIFFERENT THINGS, USING A NUMBER OF DIFFERENT TOOLS, USING A NUMBER OF DIFFERENT SKILLS AND TALENTS.

5. IN GENERAL, HOW SIGNIFICANT OR IMPORTANT IS YOUR JOB? THAT IS, ARE THE RESULTS OF YOUR WORK LIKELY TO SIGNIFICANTLY AFFECT THE LIVES OR WELL-BEING OF OTHER PEOPLE?

1 ————— 2 ————— 3 ————— 4 ————— 5 ————— 6 ————— 7

NOT VERY SIGNIFICANT; THE OUTCOMES OF MY WORK ARE NOT LIKELY TO HAVE IMPORTANT EFFECTS ON OTHER PEOPLE.

MODERATELY SIGNIFICANT.

HIGHLY SIGNIFICANT; THE OUTCOMES OF MY WORK CAN AFFECT OTHER PEOPLE IN VERY IMPORTANT WAYS.

6. TO WHAT EXTENT DO MANAGERS OR CO-WORKERS LET YOU KNOW HOW WELL YOU ARE DOING ON YOUR JOB?

1 ————— 2 ————— 3 ————— 4 ————— 5 ————— 6 ————— 7

VERY LITTLE; MANAGERS OR CO-WORKERS ALMOST NEVER LET ME KNOW HOW WELL I AM DOING.

MODERATELY; SOMETIMES MANAGERS OR CO-WORKERS MAY GIVE ME "FEEDBACK"; OTHER TIMES THEY MAY NOT.

VERY MUCH; MANAGERS OR CO-WORKERS PROVIDE ME WITH ALMOST CONSTANT "FEEDBACK" ABOUT HOW WELL I AM DOING.

7. TO WHAT EXTENT DOES DOING THE JOB ITSELF PROVIDE YOU WITH INFORMATION ABOUT YOUR WORK PERFORMANCE? THAT IS, DOES THE ACTUAL WORK ITSELF PROVIDE CLUES ABOUT HOW WELL YOU ARE DOING -- ASIDE FROM ANY "FEEDBACK" CO-WORKERS OR SUPERVISORS MAY PROVIDE?

1-----2-----3-----4-----5-----6-----7

VERY LITTLE; THE JOB
ITSELF IS SET UP SO I
COULD WORK FOREVER WITHOUT
FINDING OUT HOW WELL I AM
DOING.

MODERATELY;
SOMETIMES DOING THE
JOB PROVIDES "FEEDBACK"
TO ME; SOMETIMES IT
DOES NOT.

VERY MUCH; THE JOB IS
SET UP SO THAT I GET
ALMOST CONSTANT
"FEEDBACK" ABOUT HOW
WELL I AM DOING.

SECTION 3

LISTED BELOW ARE A NUMBER OF STATEMENTS WHICH COULD BE USED TO DESCRIBE A JOB.

YOU ARE TO INDICATE WHETHER EACH STATEMENT IS AN ACCURATE OR AN INACCURATE DESCRIPTION OF YOUR JOB.

ONCE AGAIN, PLEASE TRY TO BE AS OBJECTIVE AS YOU CAN IN DECIDING HOW ACCURATELY EACH STATEMENT DESCRIBES YOUR JOB -- REGARDLESS OF WHETHER YOU LIKE OR DISLIKE YOUR JOB.

WRITE A NUMBER IN THE BLANK BESIDE EACH STATEMENT, BASED ON THE FOLLOWING SCALE:

HOW ACCURATE IS THE STATEMENT IN DESCRIBING YOUR JOB?

| | | | | | | |
|--------------------|----------------------|------------------------|-----------|----------------------|--------------------|------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| VERY INACCURATE | MOSTLY INACCURATE | SLIGHTLY INACCURATE | UNCERTAIN | SLIGHTLY ACCURATE | MOSTLY ACCURATE | VERY ACCURATE |

1. THE JOB REQUIRES ME TO USE A NUMBER OF COMPLEX OR HIGH-LEVEL SKILLS
2. THE JOB REQUIRES A LOT OF COOPERATIVE WORK WITH OTHER PEOPLE.
3. THE JOB IS ARRANGED SO THAT I DO NOT HAVE A CHANCE TO DO AN ENTIRE PIECE OF WORK FROM BEGINNING TO END.
4. JUST DOING THE WORK REQUIRED BY THE JOB PROVIDES MANY CHANCES FOR ME TO FIGURE OUT HOW WELL I AM DOING.
5. THE JOB IS QUITE SIMPLE AND REPETITIVE
6. THE JOB CAN BE DONE ADEQUATELY BY A PERSON WORKING ALONE -- WITHOUT TALKING OR CHECKING WITH OTHER PEOPLE.
7. THE SUPERVISORS AND CO-WORKERS ON THIS JOB ALMOST NEVER GIVE ME ANY "FEEDBACK" ABOUT HOW WELL I AM DOING IN MY WORK.
8. THIS JOB IS ONE WHERE A LOT OF OTHER PEOPLE CAN BE AFFECTED BY HOW WELL THE WORK GETS DONE.
9. THE JOB DENIES ME ANY CHANCE TO USE MY PERSONAL INITIATIVE OR JUDGMENT IN CARRYING OUT THE WORK.
10. SUPERVISORS OFTEN LET ME KNOW HOW WELL THEY THINK I AM PERFORMING THE JOB.
11. THE JOB PROVIDES ME THE CHANCE TO COMPLETELY FINISH THE TASKS I BEGIN.
12. THE JOB ITSELF PROVIDES VERY FEW CLUES ABOUT WHETHER OR NOT I AM PERFORMING WELL.
13. THE JOB GIVES ME CONSIDERABLE OPPORTUNITY FOR INDEPENDENCE AND FREEDOM IN HOW I DO THE WORK.
14. THE JOB ITSELF IS NOT VERY SIGNIFICANT OR IMPORTANT IN THE BROADER SCHEME OF THINGS.

SECTION 4

NOW PLEASE INDICATE HOW YOU PERSONALLY FEEL ABOUT YOUR JOB.

EACH OF THE STATEMENTS BELOW IS SOMETHING THAT A PERSON MIGHT SAY ABOUT HIS OR HER JOB. YOU ARE TO INDICATE YOUR OWN, PERSONAL FEELINGS ABOUT YOUR JOB BY MARKING HOW MUCH YOU AGREE WITH EACH OF THE STATEMENTS.

WRITE A NUMBER IN THE BLANK FOR EACH STATEMENT, BASED ON THIS SCALE:

HOW MUCH DO YOU AGREE WITH THE STATEMENT?

| | | | | | | |
|----------------------|----------|----------------------|---------|-------------------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| DISAGREE STRONGLY | DISAGREE | DISAGREE SLIGHTLY | NEUTRAL | AGREE SLIGHTLY | AGREE | AGREE STRONGLY |

1. MY OPINION OF MYSELF GOES UP WHEN I DO THIS JOB WELL.
2. GENERALLY SPEAKING, I AM VERY SATISFIED WITH THIS JOB.
3. I FEEL A GREAT SENSE OF PERSONAL SATISFACTION WHEN I DO THIS JOB WELL.
4. I FREQUENTLY THINK OF QUITTING THIS JOB.
5. I FEEL BAD AND UNHAPPY WHEN I DISCOVER THAT I HAVE PERFORMED POORLY ON THIS JOB.
6. I AM GENERALLY SATISFIED WITH THE KIND OF WORK I DO IN THIS JOB.
7. MY OWN FEELINGS GENERALLY ARE NOT AFFECTED MUCH ONE WAY OR THE OTHER BY HOW WELL I DO ON THIS JOB.

SECTION 5

NOW PLEASE INDICATE HOW SATISFIED YOU ARE WITH EACH ASPECT OF YOUR JOB LISTED BELOW. ONCE AGAIN, WRITE THE APPROPRIATE NUMBER IN THE BLANK BESIDE EACH STATEMENT.

HOW SATISFIED ARE YOU WITH THIS ASPECT OF YOUR JOB?

1 ————— 2 ————— 3 ————— 4 ————— 5 ————— 6 ————— 7

| | | | | | | |
|---------------------------|--------------|--------------------------|---------|-----------------------|-----------|------------------------|
| EXTREMELY DISSATISFIED | DISSATISFIED | SLIGHTLY DISSATISFIED | NEUTRAL | SLIGHTLY SATISFIED | SATISFIED | EXTREMELY SATISFIED |
|---------------------------|--------------|--------------------------|---------|-----------------------|-----------|------------------------|

1. THE AMOUNT OF JOB SECURITY I HAVE.
2. THE AMOUNT OF PAY AND FRINGE BENEFITS I RECEIVE.
3. THE AMOUNT OF PERSONAL GROWTH AND DEVELOPMENT I GET IN DOING MY JOB.
4. THE PEOPLE I TALK TO AND WORK WITH ON MY JOB.
5. THE DEGREE OF RESPECT AND FAIR TREATMENT I RECEIVE FROM MY SUPERVISOR.
6. THE FEELING OF WORTHWHILE ACCOMPLISHMENT I GET FROM DOING MY JOB.
7. THE CHANCE TO GET TO KNOW OTHER PEOPLE WHILE ON THE JOB.
8. THE AMOUNT OF SUPPORT AND GUIDANCE I RECEIVE FROM MY SUPERVISOR.
9. THE DEGREE TO WHICH I AM FAIRLY PAID FOR WHAT I CONTRIBUTE TO THIS ORGANIZATION.
10. THE AMOUNT OF INDEPENDENT THOUGHT AND ACTION I CAN EXERCISE IN MY JOB.
11. HOW SECURE THINGS LOOK FOR ME IN THE FUTURE IN THIS ORGANIZATION.
12. THE CHANCE TO HELP OTHER PEOPLE WHILE AT WORK.
13. THE AMOUNT OF CHALLENGE IN MY JOB.
14. THE OVERALL QUALITY OF THE SUPERVISION I RECEIVE IN MY WORK.

SECTION 6

LISTED BELOW ARE A NUMBER OF CHARACTERISTICS WHICH COULD BE PRESENT ON ANY JOB. PEOPLE DIFFER ABOUT HOW MUCH THEY WOULD LIKE TO HAVE EACH ONE PRESENT IN THEIR OWN JOBS. WE ARE INTERESTED IN LEARNING HOW MUCH YOU PERSONALLY WOULD LIKE TO HAVE EACH ONE PRESENT IN YOUR JOB.

USING THE SCALE BELOW, PLEASE INDICATE THE DEGREE TO WHICH YOU WOULD LIKE TO HAVE EACH CHARACTERISTIC PRESENT IN YOUR JOB.

NOTE: The numbers on this scale are different from those used in previous scales.

4 ——— 5 ——— 6 ——— 7 ——— 8 ——— 9 ——— 10

WOULD LIKE
HAVING THIS ONLY
A MODERATE AMOUNT
(OR LESS)

WOULD LIKE
HAVING THIS
VERY MUCH

WOULD LIKE
HAVING THIS
EXTREMELY MUCH

1. HIGH RESPECT AND FAIR TREATMENT FROM MY SUPERVISOR.
2. STIMULATING AND CHALLENGING WORK.
3. CHANCES TO EXERCISE INDEPENDENT THOUGHT AND ACTION IN MY JOB.
4. GREAT JOB SECURITY.
5. VERY FRIENDLY CO-WORKERS.
6. OPPORTUNITIES TO LEARN NEW THINGS FROM MY WORK.
7. HIGH SALARY AND GOOD FRINGE BENEFITS.
8. OPPORTUNITIES TO BE CREATIVE AND IMAGINATIVE IN MY WORK.
9. QUICK PROMOTIONS.
10. OPPORTUNITIES FOR PERSONAL GROWTH AND DEVELOPMENT IN MY JOB.
11. A SENSE OF WORTHWHILE ACCOMPLISHMENT IN MY WORK.

SECTION 7

PLEASE RATE THE CONTRIBUTIONS WHICH EACH OF THE FOLLOWING MADE IN PROVIDING YOU WITH THE SKILLS AND INFORMATION NECESSARY TO SUCCESSFULLY PERFORM YOUR JOB BY PUTTING THE APPROPRIATE NUMBER IN THE SPACE PROVIDED. IF THE TYPE OF TRAINING IS NOT, OR WAS NOT PROVIDED, PLACE A ZERO ("0") BESIDE THE ITEM.

0 — 1 — 2 — 3 — 4 — 5

| | | | | | |
|-----------------|-----------------------|------------------|----------------|-----------------|----------------------|
| NOT PROVIDED | VERY LITTLE EXTENT | LITTLE EXTENT | SOME EXTENT | GREAT EXTENT | VERY GREAT EXTENT |
|-----------------|-----------------------|------------------|----------------|-----------------|----------------------|

1. To WHAT EXTENT WAS FORMAL TRAINING SCHOOL HELPFUL?
2. To WHAT EXTENT IS FORMAL ON-JOB-TRAINING HELPFUL?
3. To WHAT EXTENT IS INFORMAL ON-JOB-TRAINING HELPFUL?
4. To WHAT EXTENT ARE DISCUSSIONS WITH YOUR SUPERVISOR HELPFUL?
5. To WHAT EXTENT ARE INFORMAL DISCUSSIONS WITH FELLOW MECHANICS HELPFUL?

SECTION 8

M

LISTED BELOW ARE A NUMBER OF OUTCOMES WHICH MIGHT RESULT IF YOU PERFORM YOUR JOB WELL OR POORLY. YOU ARE TO RATE HOW STRONG A RELATIONSHIP YOU FEEL CURRENTLY EXISTS BETWEEN OUTSTANDING AND POOR PERFORMANCE AND ATTAINMENTS OF EACH OF THE OUTCOMES. PLACE THE APPROPRIATE NUMBER FROM THE SCALE ON THE SPACE PROVIDED FOR EACH OUTCOME.

1— 2— 3— 4— 5— 6— 7—

NOT AT ALL
RELATEDSOMEWHAT
RELATEDVERY MUCH
RELATED

1. OUTSTANDING PERFORMANCE AND A PROMOTION
2. OUTSTANDING PERFORMANCE AND INCREASED JOB RESPONSIBILITY
3. OUTSTANDING PERFORMANCE AND PRAISE FROM FELLOW MECHANICS
4. OUTSTANDING PERFORMANCE AND A LETTER OF COMMENDATION
5. OUTSTANDING PERFORMANCE AND PRAISE FROM YOUR SUPERVISOR
6. OUTSTANDING PERFORMANCE AND A 3-DAY PASS
7. OUTSTANDING PERFORMANCE AND MORE FREE TIME OFF-THE-JOB FOR PERSONAL BUSINESS
8. OUTSTANDING PERFORMANCE AND BEING SENT TO ADVANCED TRAINING SCHOOLS
9. OUTSTANDING PERFORMANCE AND BEING ASSIGNED TO DESIRABLE DUTIES
10. POOR PERFORMANCE AND BEING MORE CLOSELY SUPERVISED
11. POOR PERFORMANCE AND BEING VERBALLY REPRIMANDED
12. POOR PERFORMANCE AND BEING ASSIGNED TO UNDERSIRABLE DUTIES
13. POOR PERFORMANCE AND BEING REDUCED IN RANK
14. POOR PERFORMANCE AND BEING ASSIGNED EXTRA DUTY

SECTION 9

THIS SECTION INVOLVES VARIOUS ASPECTS OF YOUR JOB. YOU ARE TO RATE TO WHAT EXTENT YOU BELIEVE THE FOLLOWING ITEMS ARE TRUE BY PUTTING THE APPROPRIATE NUMBER ON THE RATING SCALE IN THE SPACE PROVIDED.

1 ————— 2 ————— 3 ————— 4 ————— 5

VERY LITTLE
EXTENT

LITTLE
EXTENT

SOME
EXTENT

GREAT
EXTENT

VERY GREAT
EXTENT

1. TO WHAT EXTENT DO SUPERVISORS GIVE ASSIGNMENTS OR DIRECTIONS THAT CONFLICT WITH DIRECTIVES GIVEN BY OTHER SUPERVISORS?
2. TO WHAT EXTENT DO YOU RECEIVE CLEAR JOB INSTRUCTIONS FROM YOUR SUPERVISOR?
3. TO WHAT EXTENT DOES YOUR SUPERVISOR ASK YOUR OPINION WHEN A PROBLEM REALTED TO YOUR WORK ARISES?
4. TO WHAT EXTENT DOES YOUR SUPERVISOR SET A GOOD EXAMPLE FOR HIGH PERFORMANCE?
5. TO WHAT EXTENT IS IT DIFFICULT TO GET PROBLEMS RESOLVED BECAUSE THOSE IN AUTHORITY DO NOT RESPOND TO OR MAKE PROMPT DECISIONS OR RECOMMENDATIONS?
6. TO WHAT EXTENT DOES YOUR SUPERVISOR PROPERLY MONITOR YOUR WORK PERFORMANCE?
7. TO WHAT EXTENT IS WORK TIME LOST THROUGH POOR SCHEDULING AND PLANNING?
8. TO WHAT EXTENT ARE WORKERS REWARDED IN PROPORTION TO THE QUALITY AND QUANTITY OF THEIR WORK?
9. TO WHAT EXTENT DOES THIS UNIT HAVE DETAILED REPORTING PROCEDURES FOR ALMOST ALL ACTIVITIES AND FUNCTIONS?
10. TO WHAT EXTENT DOES YOUR SUPERVISOR CORRECT YOUR BEHAVIOR IF YOU PERFORM POORLY IN YOUR JOB?
11. TO WHAT EXTENT IS INFORMATION CONCERNING REASONS WHY THINGS ARE DONE THE WAY THEY ARE COMMUNICATED TO MECHANICS?
12. TO WHAT EXTENT DOES YOUR SUPERVISOR TRUST THE JUDGMENTS OF SUBORDINATES?
13. TO WHAT EXTENT ARE YOUR WORKING CONDITIONS SATISFACTORY?
14. TO WHAT EXTENT IS YOUR SUPERVISOR ABLE TO PLAN AND COORDINATE YOUR WORK GROUP'S ACTIVITIES SO THAT MAXIMUM PERFORMANCE IS POSSIBLE?
15. TO WHAT EXTENT DO INTERRUPTIONS OCCUR IN YOUR DAILY ROUTINE THAT TAKE YOU AWAY FROM HELICOPTER MAINTENANCE?
16. TO WHAT EXTENT IS YOUR SUPERVISOR RESPONSIBLE TO THE NEEDS OF HIS SUBORDINATES?

1-----2-----3-----4-----5

| | | | | |
|-----------------------|------------------|----------------|-----------------|----------------------|
| VERY LITTLE EXTENT | LITTLE EXTENT | SOME EXTENT | GREAT EXTENT | VERY GREAT EXTENT |
|-----------------------|------------------|----------------|-----------------|----------------------|

17. To WHAT EXTENT DOES MANAGEMENT TRY TO IMPROVE WORKING CONDITIONS?
18. To WHAT EXTENT DOES THE LACK OF REQUIRED TOOLS AND SUPPLIES INTERFERE WITH JOB PERFORMANCE?
19. To WHAT EXTENT DO YOU ENJOY PERFORMING HELICOPTER MAINTENANCE?
20. To WHAT EXTENT DOES YOUR GROUP WORK WELL TOGETHER AS A TEAM?
21. To WHAT EXTENT ARE WORKERS HERE UNDER A LOT OF PRESSURE TO GET JOBS FINISHED?
22. To WHAT EXTENT DO GOOD IDEAS FROM WORKERS GET SERIOUS CONSIDERATION FROM MANAGEMENT?
23. To WHAT EXTENT IS ENOUGH ATTENTION PAID TO THE SAFETY AND COMFORT OF MEACHNICS IN THIS UNIT?
24. To WHAT EXTENT WOULD YOU LIKE TO SPEND MORE TIME PERFORMING HELICOPTER MAINTENANCE?
25. To WHAT EXTENT DOES THE PERFORMANCE OF YOUR JOB CONTRIBUTE TO THE EFFECTIVENESS OF YOUR HELICOPTER UNIT'S MISSION?
26. To WHAT EXTENT ARE LINES OF AUTHORITY CLEARLY DEFINED IN THIS UNIT?
27. To WHAT EXTENT DOES YOUR SUPERVISOR EMPHASIZE HIGH MAINTENANCE STANDARDS?
28. To WHAT EXTENT DOES YOUR SUPERVISOR MAKE CLEAR TO YOU WHAT ASPECTS OF YOUR PERFORMANCE HE CONSIDERS TO BE MOST IMPORTANT?
29. To WHAT EXTENT DOES THIS UNIT HAVE A GOOD IMAGE WITH PEOPLE YOU KNOW?
30. To WHAT EXTENT DOES THE AMOUNT OF PAPER WORK YOU DO IN CONNECTION WITH YOUR JOB KEEP YOU FROM PERFORMING THE ACTUAL MAINTENANCE WORK?
31. To WHAT EXTENT DOES YOUR SUPERVISOR ENCOURAGE YOU TO HELP IN DEVELOPING WORK METHODS AND JOB PROCEDURES?
32. To WHAT EXTENT IS YOUR TIME SPENT PERFORMING HELICOPTER MAINTENANCE?
33. To WHAT EXTENT DOES YOUR SUPERVISOR LET YOU DO YOUR WORK IN THE WAY YOU THINK IS BEST? ...
34. To WHAT EXTENT CAN A WORKER BE PROUD TO SAY HE WORKS HERE?
35. To WHAT EXTENT DO DISCUSSIONS WITH OTHER MEMBERS OF YOUR WORK GROUP ASSIST YOU IN PERFORMING YOUR JOB?

- | | | | | |
|-----------------------|------------------|----------------|-----------------|----------------------|
| 1 | 2 | 3 | 4 | 5 |
| VERY LITTLE EXTENT | LITTLE EXTENT | SOME EXTENT | GREAT EXTENT | VERY GREAT EXTENT |
36. To WHAT EXTENT DO WORKERS IN YOUR WORK GROUP TRUST AND HAVE CONFIDENCE IN YOUR SUPERVISOR?
 37. To WHAT EXTENT DO YOUR FELLOW OPERATORS ENCOURAGE SUPERIOR PERFORMANCE?
 38. To WHAT EXTENT DO YOU FEEL YOUR SUPERVISOR IS TECHNICALLY COMPETENT IN HELICOPTER MAINTENANCE?
 39. To WHAT EXTENT ARE YOUR JOB DUTIES CLEARLY DEFINED BY YOUR SUPERVISOR?
 40. To WHAT EXTENT IS YOUR WORK ENVIRONMENT CONDUCIVE TO THE EXPRESSION OF INDIVIDUAL OPINIONS AND IDEAS?
 41. To WHAT EXTENT ARE TRADITIONS SO STRONG HERE THAT IT IS DIFFICULT TO MODIFY ESTABLISHED PROCEDURES OR UNDERTAKE NEW PROGRAMS?
 42. To WHAT EXTENT IS YOUR JOB AS IMPORTANT AS YOU WERE LED TO BELIEVE IN YOUR INITIAL TRAINING?
 43. To WHAT EXTENT IS INFORMATION COMMUNICATED QUICKLY TO YOU CONCERNING CHANGES IN PROCEDURES, POLICIES, ETC.?
 44. To WHAT EXTENT IS YOUR SUPERVISOR CONCERNED WITH THE QUALITY OF WORK YOU TURN OUT IN YOUR PRESENT JOB?
 45. To WHAT EXTENT ARE WORKING CONDITIONS HERE COMFORTABLE?
 46. To WHAT EXTENT DOES YOUR SUPERVISOR ENCOURAGE THE DEVELOPMENT OF CLOSE RELATIONSHIPS WITHIN THE GROUP?
 47. To WHAT EXTENT WILL YOUR SUPERVISOR GO OUT OF HIS WAY TO HELP YOU DO AN OUTSTANDING JOB?
 48. To WHAT EXTENT IS YOUR SUPERVISOR MORE CONCERNED ABOUT MEETING SCHEDULES THAN HE IS ABOUT THE WELFARE OF HIS WORKERS?
 49. To WHAT EXTENT IS YOUR SUPERVISOR SUCCESSFUL IN HIS INTERACTIONS WITH HIGHER LEVELS OF COMMAND?
 50. To WHAT EXTENT DOES IT BOTHER YOU TO HEAR (OR READ ABOUT) SOMEONE CRITICIZING THIS UNIT OR COMPARING THIS UNIT UNFAVORABLY TO OTHER UNITS?
 51. To WHAT EXTENT MUST A WORKER GET APPROVAL FOR DECISIONS WHICH HE SHOULD BE ABLE TO MAKE ALONG?

1 ————— 2 ————— 3 ————— 4 ————— 5

VERY LITTLE
EXTENT

LITTLE
EXTENT

SOME
EXTENT

GREAT
EXTENT

VERY GREAT
EXTENT

52. To what extent does your supervisor properly monitor your work performance?
53. To what extent are your working conditons satisfactory?
54. To what extent are workers here under a lot of pressure to get jobs finished?

APPENDIX B2
ORGANIZATIONAL INCENTIVE INVENTORY
(CIVILIAN ORGANIZATIONS)

ORGANIZATIONAL INCENTIVE INVENTORY

THIS QUESTIONNAIRE WAS DEVELOPED AS PART OF A PERCEPTRONICS STUDY OF INCENTIVES AND OTHER ORGANIZATIONAL INFLUENCES ON PERSONNEL PRODUCTIVITY AND JOB SATISFACTION.

ON THE FOLLOWING PAGES YOU WILL FIND SEVERAL DIFFERENT KINDS OF QUESTIONS ABOUT YOUR JOB. SPECIFIC INSTRUCTIONS ARE GIVEN AT THE START OF EACH SECTION. PLEASE READ THEM CAREFULLY.

THE QUESTIONS ARE DESIGNED TO OBTAIN YOUR PERCEPTIONS OF YOUR JOB AND YOUR REACTIONS TO IT.

THERE ARE NO "TRICK" QUESTIONS. YOUR INDIVIDUAL ANSWERS WILL BE KEPT COMPLETELY CONFIDENTIAL. PLEASE ANSWER EACH ITEM AS HONESTLY AND FRANKLY AS POSSIBLE.

THANK YOU FOR YOUR COOPERATION

SECTION 1

C

1. AGE AT LAST BIRTHDAY? _____
2. SEX MALE _____ FEMALE _____
3. MARRIED? YES _____ No _____
4. DO YOU HAVE DEPENDENT CHILDREN AT HOME? YES _____ No _____
5. WHAT IS YOUR HIGHEST LEVEL OF EDUCATION? *check one*
DID NOT FINISH HIGH SCHOOL _____ 3-4 YEARS COLLEGE _____
HIGH SCHOOL GRADUATE _____ MORE THAN 4 YEARS COLLEGE _____
1-2 YEARS COLLEGE _____
6. DO YOU HAVE AN A & P LICENSE? YES _____ No _____
IF NOT, DO YOU PLAN TO GET ONE? YES _____ No _____
7. WERE YOU IN THE MILITARY? YES _____ No _____
IF YES, ANSWER THE FOLLOWING:
MILITARY BRANCH? (*check one*) ARMY _____ NAVY _____ AIR FORCE _____ MARINES _____
YEARS OF SERVICE? _____
WHAT WAS YOUR MILITARY OCCUPATION? _____
8. HOW LONG HAVE YOU BEEN IN YOUR PRESENT JOB? _____
9. DID YOU HAVE PREVIOUS EXPERIENCE WITH HELICOPTER MAINTENANCE BEFORE COMING TO WORK HERE?
Yes _____ No _____
IF YES, HOW MUCH EXPERIENCE? _____
10. PLEASE LIST ALL HELICOPTER TRAINING SCHOOLS/COURSES YOU HAVE ATTENDED AND THE AMOUNT OF TIME IN EACH (MILITARY AND CIVILIAN).
- | NAME | LENGTH OF TRAINING (WEEKS) |
|-------|----------------------------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
11. HOW LONG AFTER TECHNICAL TRAINING SCHOOL DID IT TAKE BEFORE YOU WERE PROFICIENT AT YOUR JOB? *check one*
IMMEDIATELY _____ 4- 6 MONTHS _____ MORE THAN 12 MONTHS _____
1-3 MONTHS _____ 7-12 MONTHS _____ STILL DO NOT FEEL PROFICIENT _____
12. DO YOU PLAN TO MAKE HELICOPTER MAINTENANCE A CAREER? YES _____ No _____

SECTION 2

THIS PART OF THE QUESTIONNAIRE ASKS YOU TO
DESCRIBE YOUR JOB, AS OBJECTIVELY AS YOU CAN.

PLEASE DO NOT USE THIS PART OF THE QUESTIONNAIRE TO SHOW HOW MUCH YOU LIKE OR DISLIKE YOUR JOB.
QUESTIONS ABOUT THAT WILL COME LATER. INSTEAD, TRY TO MAKE YOUR DESCRIPTIONS AS ACCURATE AND AS
OBJECTIVE AS YOU POSSIBLY CAN.

A SAMPLE QUESTION IS GIVEN BELOW.

A. TO WHAT EXTENT DOES YOUR JOB REQUIRE YOU TO WORK WITH MECHANICAL EQUIPMENT?

1 — 2 — 3 — 4 — 5 — 6 — 7

• VERY LITTLE; THE JOB
REQUIRES ALMOST NO
CONTACT WITH MECHANICAL
EQUIPMENT OF ANY KIND.

MODERATELY

VERY MUCH; THE JOB
REQUIRES ALMOST
CONSTANT WORK WITH
MECHANICAL EQUIPMENT.

YOU ARE TO CIRCLE THE NUMBER WHICH IS THE MOST ACCURATE DESCRIPTION OF YOUR JOB.

IF, FOR EXAMPLE, YOUR JOB REQUIRES YOU TO WORK WITH MECHANICAL EQUIPMENT A GOOD DEAL
OF THE TIME -- BUT ALSO REQUIRES SOME PAPERWORK -- YOU MIGHT CIRCLE THE NUMBER SIX,
AS WAS DONE IN THE EXAMPLE ABOVE.

1. TO WHAT EXTENT DOES YOUR JOB REQUIRE YOU TO WORK CLOSELY WITH OTHER PEOPLE (IN RELATED JOBS IN
YOUR OWN ORGANIZATION)?

1 — 2 — 3 — 4 — 5 — 6 — 7

VERY LITTLE; DEALING
WITH OTHER PEOPLE IS
NOT AT ALL NECESSARY
IN DOING THE JOB.

MODERATELY; SOME
DEALING WITH OTHERS
IS NECESSARY.

VERY MUCH; DEALING
WITH OTHER PEOPLE IS
AN ABSOLUTELY ESSENTIAL
AND CRUCIAL PART OF
DOING THE JOB.

2. HOW MUCH AUTONOMY IS THERE IN YOUR JOB? THAT IS, TO WHAT EXTENT DOES YOUR JOB PERMIT YOU TO
DECIDE ON YOUR OWN HOW TO GO ABOUT DOING THE WORK?

1 — 2 — 3 — 4 — 5 — 6 — 7

VERY LITTLE; THE
JOB GIVES ME ALMOST
NO PERSONAL "SAY"
ABOUT HOW AND WHEN
THE WORK IS DONE.

MODERATE AUTONOMY;
MANY THINGS ARE
STANDARDIZED AND NOT
UNDER MY CONTROL, BUT
I CAN MAKE SOME
DECISIONS ABOUT THE
WORK.

VERY MUCH; THE JOB
GIVES ME ALMOST COMPLETE
RESPONSIBILITY FOR
DECIDING HOW AND WHEN
THE WORK IS DONE.

3. To what extent does your job involve doing a "whole" and identifiable piece of work? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it only a small part of the overall piece of work, which is finished by other people or by automatic machines?

1 — 2 — 3 — 4 — 5 — 6 — 7

My job is only a tiny part of the overall piece of work; the results of my activities cannot be seen in the final product or service.

My job is a moderate-sized "chunk" of the overall piece of work; my own contribution can be seen in the final outcome.

My job involves doing the whole piece of work, from start to finish; the results of my activities are easily seen in the final product or service.

4. How much variety is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?

1 — 2 — 3 — 4 — 5 — 6 — 7

Very little, the job requires me to do the same routine things over and over again.

Moderate variety

Very much; the job requires me to do many different things, using a number of different tools, using a number of different skills and talents.

5. In general, how significant or important is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?

1 — 2 — 3 — 4 — 5 — 6 — 7

Not very significant; the outcomes of my work are not likely to have important effects on other people.

Moderately significant.

Highly significant; the outcomes of my work can affect other people in very important ways.

6. To what extent do managers or co-workers let you know how well you are doing on your job?

1 — 2 — 3 — 4 — 5 — 6 — 7

Very little; managers or co-workers almost never let me know how well I am doing.

Moderately; sometimes managers or co-workers may give me "feedback"; other times they may not.

Very much; managers or co-workers provide me with almost constant "feedback" about how well I am doing.

7. TO WHAT EXTENT DOES DOING THE JOB ITSELF PROVIDE YOU WITH INFORMATION ABOUT YOUR WORK PERFORMANCE? THAT IS, DOES THE ACTUAL WORK ITSELF PROVIDE CLUES ABOUT HOW WELL YOU ARE DOING -- ASIDE FROM ANY "FEEDBACK" CO-WORKERS OR SUPERVISORS MAY PROVIDE?

1 — 2 — 3 — 4 — 5 — 6 — 7

VERY LITTLE; THE JOB
ITSELF IS SET UP SO I
COULD WORK FOREVER WITHOUT
FINDING OUT HOW WELL I AM
DOING.

MODERATELY;
SOMETIMES DOING THE
JOB PROVIDES "FEEDBACK"
TO ME; SOMETIMES IT
DOES NOT.

VERY MUCH; THE JOB IS
SET UP SO THAT I GET
ALMOST CONSTANT
"FEEDBACK" ABOUT HOW
WELL I AM DOING.

SECTION 3

LISTED BELOW ARE A NUMBER OF STATEMENTS WHICH COULD BE USED TO DESCRIBE A JOB.

YOU ARE TO INDICATE WHETHER EACH STATEMENT IS AN ACCURATE OR AN INACCURATE DESCRIPTION OF YOUR JOB.

ONCE AGAIN, PLEASE TRY TO BE AS OBJECTIVE AS YOU CAN IN DECIDING HOW ACCURATELY EACH STATEMENT DESCRIBES YOUR JOB -- REGARDLESS OF WHETHER YOU LIKE OR DISLIKE YOUR JOB.

WRITE A NUMBER IN THE BLANK BESIDE EACH STATEMENT, BASED ON THE FOLLOWING SCALE:

HOW ACCURATE IS THE STATEMENT IN DESCRIBING YOUR JOB?

| | | | | | | |
|--------------------|----------------------|------------------------|-----------|----------------------|--------------------|------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| VERY INACCURATE | MOSTLY INACCURATE | SLIGHTLY INACCURATE | UNCERTAIN | SLIGHTLY ACCURATE | MOSTLY ACCURATE | VERY ACCURATE |

1. THE JOB REQUIRES ME TO USE A NUMBER OF COMPLEX OR HIGH-LEVEL SKILLS
2. THE JOB REQUIRES A LOT OF COOPERATIVE WORK WITH OTHER PEOPLE.
3. THE JOB IS ARRANGED SO THAT I DO NOT HAVE A CHANCE TO DO AN ENTIRE PIECE OF WORK FROM BEGINNING TO END.
4. JUST DOING THE WORK REQUIRED BY THE JOB PROVIDES MANY CHANCES FOR ME TO FIGURE OUT HOW WELL I AM DOING.
5. THE JOB IS QUITE SIMPLE AND REPETITIVE
6. THE JOB CAN BE DONE ADEQUATELY BY A PERSON WORKING ALONE -- WITHOUT TALKING OR CHECKING WITH OTHER PEOPLE.
7. THE SUPERVISORS AND CO-WORKERS ON THIS JOB ALMOST NEVER GIVE ME ANY "FEEDBACK" ABOUT HOW WELL I AM DOING IN MY WORK.
8. THIS JOB IS ONE WHERE A LOT OF OTHER PEOPLE CAN BE AFFECTED BY HOW WELL THE WORK GETS DONE.
9. THE JOB DENIES ME ANY CHANCE TO USE MY PERSONAL INITIATIVE OR JUDGMENT IN CARRYING OUT THE WORK.
10. SUPERVISORS OFTEN LET ME KNOW HOW WELL THEY THINK I AM PERFORMING THE JOB.
11. THE JOB PROVIDES ME THE CHANCE TO COMPLETELY FINISH THE TASKS I BEGIN.
12. THE JOB ITSELF PROVIDES VERY FEW CLUES ABOUT WHETHER OR NOT I AM PERFORMING WELL.
13. THE JOB GIVES ME CONSIDERABLE OPPORTUNITY FOR INDEPENDENCE AND FREEDOM IN HOW I DO THE WORK.
14. THE JOB ITSELF IS NOT VERY SIGNIFICANT OR IMPORTANT IN THE BROADER SCHEME OF THINGS.

SECTION 4

NOW PLEASE INDICATE HOW YOU PERSONALLY FEEL ABOUT YOUR JOB.

EACH OF THE STATEMENTS BELOW IS SOMETHING THAT A PERSON MIGHT SAY ABOUT HIS OR HER JOB. YOU ARE TO INDICATE YOUR OWN, PERSONAL FEELINGS ABOUT YOUR JOB BY MARKING HOW MUCH YOU AGREE WITH EACH OF THE STATEMENTS.

WRITE A NUMBER IN THE BLANK FOR EACH STATEMENT, BASED ON THIS SCALE:

HOW MUCH DO YOU AGREE WITH THE STATEMENT?

| | | | | | | |
|----------------------|----------|----------------------|---------|-------------------|-------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| DISAGREE STRONGLY | DISAGREE | DISAGREE SLIGHTLY | NEUTRAL | AGREE SLIGHTLY | AGREE | AGREE STRONGLY |

1. MY OPINION OF MYSELF GOES UP WHEN I DO THIS JOB WELL.
2. GENERALLY SPEAKING, I AM VERY SATISFIED WITH THIS JOB.
3. I FEEL A GREAT SENSE OF PERSONAL SATISFACTION WHEN I DO THIS JOB WELL.
4. I FREQUENTLY THINK OF QUITTING THIS JOB.
5. I FEEL BAD AND UNHAPPY WHEN I DISCOVER THAT I HAVE PERFORMED POORLY ON THIS JOB.
6. I AM GENERALLY SATISFIED WITH THE KIND OF WORK I DO IN THIS JOB.
7. MY OWN FEELINGS GENERALLY ARE NOT AFFECTED MUCH ONE WAY OR THE OTHER BY HOW WELL I DO ON THIS JOB.

SECTION 5

NOW PLEASE INDICATE HOW SATISFIED YOU ARE WITH EACH ASPECT OF YOUR JOB LISTED BELOW. ONCE AGAIN, WRITE THE APPROPRIATE NUMBER IN THE BLANK BESIDE EACH STATEMENT.

HOW SATISFIED ARE YOU WITH THIS ASPECT OF YOUR JOB?

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--|--------------|--------------------------|---------|-----------------------|-----------|------------------------|
| EXTREMELY DISSATISFIED | DISSATISFIED | SLIGHTLY DISSATISFIED | NEUTRAL | SLIGHTLY SATISFIED | SATISFIED | EXTREMELY SATISFIED |
| 1. THE AMOUNT OF JOB SECURITY I HAVE. | | | | | | |
| 2. THE AMOUNT OF PAY AND FRINGE BENEFITS I RECEIVE. | | | | | | |
| 3. THE AMOUNT OF PERSONAL GROWTH AND DEVELOPMENT I GET IN DOING MY JOB. | | | | | | |
| 4. THE PEOPLE I TALK TO AND WORK WITH ON MY JOB. | | | | | | |
| 5. THE DEGREE OF RESPECT AND FAIR TREATMENT I RECEIVE FROM MY SUPERVISOR. | | | | | | |
| 6. THE FEELING OF WORTHWHILE ACCOMPLISHMENT I GET FROM DOING MY JOB. | | | | | | |
| 7. THE CHANCE TO GET TO KNOW OTHER PEOPLE WHILE ON THE JOB. | | | | | | |
| 8. THE AMOUNT OF SUPPORT AND GUIDANCE I RECEIVE FROM MY SUPERVISOR. | | | | | | |
| 9. THE DEGREE TO WHICH I AM FAIRLY PAID FOR WHAT I CONTRIBUTE TO THIS ORGANIZATION. | | | | | | |
| 10. THE AMOUNT OF INDEPENDENT THOUGHT AND ACTION I CAN EXERCISE IN MY JOB. | | | | | | |
| 11. HOW SECURE THINGS LOOK FOR ME IN THE FUTURE IN THIS ORGANIZATION. | | | | | | |
| 12. THE CHANCE TO HELP OTHER PEOPLE WHILE AT WORK. | | | | | | |
| 13. THE AMOUNT OF CHALLENGE IN MY JOB. | | | | | | |
| 14. THE OVERALL QUALITY OF THE SUPERVISION I RECEIVE IN MY WORK. | | | | | | |

SECTION 6

LISTED BELOW ARE A NUMBER OF CHARACTERISTICS WHICH COULD BE PRESENT ON ANY JOB. PEOPLE DIFFER ABOUT HOW MUCH THEY WOULD LIKE TO HAVE EACH ONE PRESENT IN THEIR OWN JOBS. WE ARE INTERESTED IN LEARNING HOW MUCH YOU PERSONALLY WOULD LIKE TO HAVE EACH ONE PRESENT IN YOUR JOB.

USING THE SCALE BELOW, PLEASE INDICATE THE DEGREE TO WHICH YOU WOULD LIKE TO HAVE EACH CHARACTERISTIC PRESENT IN YOUR JOB.

NOTE: The numbers on this scale are different from those used in previous scales.

4 ——— 5 ——— 6 ——— 7 ——— 8 ——— 9 ——— 10

WOULD LIKE
HAVING THIS ONLY
A MODERATE AMOUNT
(OR LESS)

WOULD LIKE
HAVING THIS
VERY MUCH

WOULD LIKE
HAVING THIS
EXTREMELY MUCH

1. HIGH RESPECT AND FAIR TREATMENT FROM MY SUPERVISOR.
2. STIMULATING AND CHALLENGING WORK.
3. CHANCES TO EXERCISE INDEPENDENT THOUGHT AND ACTION IN MY JOB.
4. GREAT JOB SECURITY.
5. VERY FRIENDLY CO-WORKERS.
6. OPPORTUNITIES TO LEARN NEW THINGS FROM MY WORK.
7. HIGH SALARY AND GOOD FRINGE BENEFITS.
8. OPPORTUNITIES TO BE CREATIVE AND IMAGINATIVE IN MY WORK.
9. QUICK PROMOTIONS.
10. OPPORTUNITIES FOR PERSONAL GROWTH AND DEVELOPMENT IN MY JOB.
11. A SENSE OF WORTHWHILE ACCOMPLISHMENT IN MY WORK.

SECTION 7

PLEASE RATE THE CONTRIBUTIONS WHICH EACH OF THE FOLLOWING MADE IN PROVIDING YOU WITH THE SKILLS AND INFORMATION NECESSARY TO SUCCESSFULLY PERFORM YOUR JOB BY PUTTING THE APPROPRIATE NUMBER IN THE SPACE PROVIDED. IF THE TYPE OF TRAINING IS NOT, OR WAS NOT PROVIDED, PLACE A ZERO ("0") BESIDE THE ITEM.

0 ——— 1 ——— 2 ——— 3 ——— 4 ——— 5

| | | | | | |
|-----------------|-----------------------|------------------|----------------|-----------------|----------------------|
| NOT PROVIDED | VERY LITTLE EXTENT | LITTLE EXTENT | SOME EXTENT | GREAT EXTENT | VERY GREAT EXTENT |
|-----------------|-----------------------|------------------|----------------|-----------------|----------------------|

1. To WHAT EXTENT WAS FORMAL TRAINING SCHOOL HELPFUL?
2. To WHAT EXTENT IS FORMAL ON-JOB-TRAINING HELPFUL?
3. To WHAT EXTENT IS INFORMAL ON-JOB-TRAINING HELPFUL?
4. To WHAT EXTENT ARE DISCUSSIONS WITH YOUR SUPERVISOR HELPFUL?
5. To WHAT EXTENT ARE INFORMAL DISCUSSIONS WITH FELLOW MECHANICS HELPFUL?

SECTION 8

C

LISTED BELOW ARE A NUMBER OF OUTCOMES WHICH MIGHT RESULT IF YOU PERFORM YOUR JOB WELL OR POORLY. YOU ARE TO RATE HOW STRONG A RELATIONSHIP YOU FEEL CURRENTLY EXISTS BETWEEN OUTSTANDING AND POOR PERFORMANCE AND ATTAINMENTS OF EACH OF THE OUTCOMES. PLACE THE APPROPRIATE NUMBER FROM THE SCALE ON THE SPACE PROVIDED FOR EACH OUTCOME.

- | | | | | | | |
|-----------------------|---|---------------------|---|---|----------------------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| NOT AT ALL RELATED | | SOMEWHAT RELATED | | | VERY MUCH RELATED | |
1. OUTSTANDING PERFORMANCE AND A PROMOTION
 2. OUTSTANDING PERFORMANCE AND INCREASED JOB RESPONSIBILITY
 3. OUTSTANDING PERFORMANCE AND PRAISE FROM FELLOW MECHANICS
 4. OUTSTANDING PERFORMANCE AND A LETTER OF COMMENDATION
 5. OUTSTANDING PERFORMANCE AND PRAISE FROM YOUR SUPERVISOR
 6. OUTSTANDING PERFORMANCE AND MORE FREE TIME OFF-THE-JOB FOR PERSONAL BUSINESS
 7. OUTSTANDING PERFORMANCE AND BEING SENT TO ADVANCED TRAINING SCHOOLS
 8. OUTSTANDING PERFORMANCE AND BEING ASSIGNED TO DESIRABLE DUTIES
 9. OUTSTANDING PERFORMANCE AND GETTING A BONUS
 10. POOR PERFORMANCE AND BEING VERBALLY REPRIMANDED
 11. POOR PERFORMANCE AND BEING ASSIGNED TO UNPOPULAR DUTIES
 12. POOR PERFORMANCE AND BEING TERMINATED
 13. POOR PERFORMANCE AND BEING LAID OFF
 14. POOR PERFORMANCE AND BEING SUSPENDED WITHOUT PAY FOR SOME PERIOD OF TIME (ONE WEEK)
 15. POOR PERFORMANCE AND BEING MORE CLOSELY SUPERVISED

SECTION 9

THIS SECTION INVOLVES VARIOUS ASPECTS OF YOUR JOB. YOU ARE TO RATE TO WHAT EXTENT YOU BELIEVE THE FOLLOWING ITEMS ARE TRUE BY PUTTING THE APPROPRIATE NUMBER ON THE RATING SCALE IN THE SPACE PROVIDED.

1 ————— 2 ————— 3 ————— 4 ————— 5

VERY LITTLE
EXTENT

LITTLE
EXTENT

SOME
EXTENT

GREAT
EXTENT

VERY GREAT
EXTENT

1. TO WHAT EXTENT DO SUPERVISORS GIVE ASSIGNMENTS OR DIRECTIONS THAT CONFLICT WITH DIRECTIVES GIVEN BY OTHER SUPERVISORS?
2. TO WHAT EXTENT DO YOU RECEIVE CLEAR JOB INSTRUCTIONS FROM YOUR SUPERVISOR?
3. TO WHAT EXTENT DOES YOUR SUPERVISOR ASK YOUR OPINION WHEN A PROBLEM REALTED TO YOUR WORK ARISES?
4. TO WHAT EXTENT DOES YOUR SUPERVISOR SET A GOOD EXAMPLE FOR HIGH PERFORMANCE?
5. TO WHAT EXTENT IS IT DIFFICULT TO GET PROBLEMS RESOLVED BECAUSE THOSE IN AUTHORITY DO NOT RESPOND TO OR MAKE PROMPT DECISIONS OR RECOMMENDATIONS?
6. TO WHAT EXTENT DOES YOUR SUPERVISOR PROPERLY MONITOR YOUR WORK PERFORMANCE?
7. TO WHAT EXTENT IS WORK TIME LOST THROUGH POOR SCHEDULING AND PLANNING?
8. TO WHAT EXTENT ARE WORKERS REWARDED IN PROPORTION TO THE QUALITY AND QUANTITY OF THEIR WORK?
9. TO WHAT EXTENT DOES THIS UNIT HAVE DETAILED REPORTING PROCEDURES FOR ALMOST ALL ACTIVITIES AND FUNCTIONS?
10. TO WHAT EXTENT DOES YOUR SUPERVISOR CORRECT YOUR BEHAVIOR IF YOU PERFORM POORLY IN YOUR JOB?
11. TO WHAT EXTENT IS INFORMATION CONCERNING REASONS WHY THINGS ARE DONE THE WAY THEY ARE COMMUNICATED TO MECHANICS?
12. TO WHAT EXTENT DOES YOUR SUPERVISOR TRUST THE JUDGMENTS OF SUBORDINATES?
13. TO WHAT EXTENT ARE YOUR WORKING CONDITIONS SATISFACTORY?
14. TO WHAT EXTENT IS YOUR SUPERVISOR ABLE TO PLAN AND COORDINATE YOUR WORK GROUP'S ACTIVITIES SO THAT MAXIMUM PERFORMANCE IS POSSIBLE?
15. TO WHAT EXTENT DO INTERRUPTIONS OCCUR IN YOUR DAILY ROUTINE THAT TAKE YOU AWAY FROM HELICOPTER MAINTENANCE?
16. TO WHAT EXTENT IS YOUR SUPERVISOR RESPONSIBLE TO THE NEEDS OF HIS SUBORDINATES?

1 ————— 2 ————— 3 ————— 4 ————— 5

VERY LITTLE LITTLE SOME GREAT VERY GREAT
EXTENT EXTENT EXTENT EXTENT EXTENT

17. To WHAT EXTENT DOES MANAGEMENT TRY TO IMPROVE WORKING CONDITIONS?
18. To WHAT EXTENT DOES THE LACK OF REQUIRED TOOLS AND SUPPLIES INTERFERE WITH JOB PERFORMANCE?
19. To WHAT EXTENT DO YOU ENJOY PERFORMING HELICOPTER MAINTENANCE?
20. To WHAT EXTENT DOES YOUR GROUP WORK WELL TOGETHER AS A TEAM?
21. To WHAT EXTENT ARE WORKERS HERE UNDER A LOT OF PRESSURE TO GET JOBS FINISHED?
22. To WHAT EXTENT DO GOOD IDEAS FROM WORKERS GET SERIOUS CONSIDERATION FROM MANAGEMENT?
23. To WHAT EXTENT IS ENOUGH ATTENTION PAID TO THE SAFETY AND COMFORT OF MEACHNICS IN THIS UNIT?
24. To WHAT EXTENT WOULD YOU LIKE TO SPEND MORE TIME PERFORMING HELICOPTER MAINTENANCE?
25. To WHAT EXTENT DOES THE PERFORMANCE OF YOUR JOB CONTRIBUTE TO THE EFFECTIVENESS OF YOUR HELICOPTER UNIT'S MISSION?
26. To WHAT EXTENT ARE LINES OF AUTHORITY CLEARLY DEFINED IN THIS UNIT?
27. To WHAT EXTENT DOES YOUR SUPERVISOR EMPHASIZE HIGH MAINTENANCE STANDARDS?
28. To WHAT EXTENT DOES YOUR SUPERVISOR MAKE CLEAR TO YOU WHAT ASPECTS OF YOUR PERFORMANCE HE CONSIDERS TO BE MOST IMPORTANT?
29. To WHAT EXTENT DOES THIS UNIT HAVE A GOOD IMAGE WITH PEOPLE YOU KNOW?
30. To WHAT EXTENT DOES THE AMOUNT OF PAPER WORK YOU DO IN CONNECTION WITH YOUR JOB KEEP YOU FROM PERFORMING THE ACTUAL MAINTENANCE WORK?
31. To WHAT EXTENT DOES YOUR SUPERVISOR ENCOURAGE YOU TO HELP IN DEVELOPING WORK METHODS AND JOB PROCEDURES?
32. To WHAT EXTENT IS YOUR TIME SPENT PERFORMING HELICOPTER MAINTENANCE?
33. To WHAT EXTENT DOES YOUR SUPERVISOR LET YOU DO YOUR WORK IN THE WAY YOU THINK IS BEST? ...
34. To WHAT EXTENT CAN A WORKER BE PROUD TO SAY HE WORKS HERE?
35. To WHAT EXTENT DO DISCUSSIONS WITH OTHER MEMBERS OF YOUR WORK GROUP ASSIST YOU IN PERFORMING YOUR JOB?

1 ————— 2 ————— 3 ————— 4 ————— 5

VERY LITTLE
EXTENT

LITTLE
EXTENT

SOME
EXTENT

GREAT
EXTENT

VERY GREAT
EXTENT

36. To WHAT EXTENT DO WORKERS IN YOUR WORK GROUP TRUST AND HAVE CONFIDENCE IN YOUR SUPERVISOR?
37. To WHAT EXTENT DO YOUR FELLOW OPERATORS ENCOURAGE SUPERIOR PERFORMANCE?
38. To WHAT EXTENT DO YOU FEEL YOUR SUPERVISOR IS TECHNICALLY COMPETENT IN HELICOPTER MAINTENANCE?
39. To WHAT EXTENT ARE YOUR JOB DUTIES CLEARLY DEFINED BY YOUR SUPERVISOR?
40. To WHAT EXTENT IS YOUR WORK ENVIRONMENT CONDUCIVE TO THE EXPRESSION OF INDIVIDUAL OPINIONS AND IDEAS?
41. To WHAT EXTENT ARE TRADITIONS SO STRONG HERE THAT IT IS DIFFICULT TO MODIFY ESTABLISHED PROCEDURES OR UNDERTAKE NEW PROGRAMS?
42. To WHAT EXTENT IS YOUR JOB AS IMPORTANT AS YOU WERE LED TO BELIEVE IN YOUR INITIAL TRAINING?
43. To WHAT EXTENT IS INFORMATION COMMUNICATED QUICKLY TO YOU CONCERNING CHANGES IN PROCEDURES, POLICIES, ETC.?
44. To WHAT EXTENT IS YOUR SUPERVISOR CONCERNED WITH THE QUALITY OF WORK YOU TURN OUT IN YOUR PRESENT JOB?
45. To WHAT EXTENT ARE WORKING CONDITIONS HERE COMFORTABLE?
46. To WHAT EXTENT DOES YOUR SUPERVISOR ENCOURAGE THE DEVELOPMENT OF CLOSE RELATIONSHIPS WITHIN THE GROUP?
47. To WHAT EXTENT WILL YOUR SUPERVISOR GO OUT OF HIS WAY TO HELP YOU DO AN OUTSTANDING JOB?
48. To WHAT EXTENT IS YOUR SUPERVISOR MORE CONCERNED ABOUT MEETING SCHEDULES THAN HE IS ABOUT THE WELFARE OF HIS WORKERS?
49. To WHAT EXTENT IS YOUR SUPERVISOR SUCCESSFUL IN HIS INTERACTIONS WITH HIGHER LEVELS OF COMMAND?
50. To WHAT EXTENT DOES IT BOTHER YOU TO HEAR (OR READ ABOUT) SOMEONE CRITICIZING THIS UNIT OR COMPARING THIS UNIT UNFAVORABLY TO OTHER UNITS?
51. To WHAT EXTENT MUST A WORKER GET APPROVAL FOR DECISIONS WHICH HE SHOULD BE ABLE TO MAKE ALONG?

1 ————— 2 ————— 3 ————— 4 ————— 5

VERY LITTLE
EXTENT

LITTLE
EXTENT

SOME
EXTENT

GREAT
EXTENT

VERY GREAT
EXTENT

52. TO WHAT EXTENT DOES YOUR SUPERVISOR PROPERLY MONITOR YOUR WORK PERFORMANCE?
53. TO WHAT EXTENT ARE YOUR WORKING CONDITONS SATISFACTORY?
54. TO WHAT EXTENT ARE WORKERS HERE UNDER A LOT OF PRESSURE TO GET JOBS FINISHED?

APPENDIX C
EFFECTIVENESS CRITERIA RATING

Questionnaire: Criteria used to judge the effectiveness of helicopter maintenance units

When someone compares two or more helicopter maintenance units, in order to determine their relative overall effectiveness, he compares the units in terms of several criteria. Different people, however, may use different criteria or may weight the importance of various criteria differently from each other.

What we want you to do is rate each of the criteria listed on the next page in terms of how important each would be in your determination of the overall effectiveness of a helicopter maintenance unit during peace time.

We realize that many of these criteria are not available in an actual situation. We want you, however, to rate each criteria on the assumption you could get such information about a helicopter maintenance unit.

Place a number beside each item according to the rating scale to show:

How important each criteria would be in your evaluation of the overall effectiveness of a helicopter maintenance unit under peace time conditions

If there are any criteria in use or some you would think relevant that we have not listed, please write them in at the end of the list and rate them according to the scale.

OF NO IMPORTANCE OF VERY LITTLE IMPORTANCE OF LITTLE IMPORTANCE OF SOME IMPORTANCE OF MODERATE IMPORTANCE OF CONSIDERABLE IMPORTANCE VERY IMPORTANT EXTREMELY IMPORTANT
 1-----2-----3-----4-----5-----6-----7-----8

Organizational Effectiveness/Efficiency Criteria (Peace Time)

1. Maintenance man hours per aircraft.....
2. Maintenance man hours per flight hour.....
3. Availability.....
4. Readiness.....
5. Mean time to repair.....
6. Down time.....
7. Parts consumption.....
8. Missions flown per month.....
9. Flight hours per month.....
10. Number of helicopters in for repair at any one time.....
11. Number of complaints from pilots or from the unit
to which the aircraft belongs.....
12. Number of good parts replaced.....
13. Number of work orders completed per day/week/month.....
14. Aircraft accident rate (i.e., flight hours between
accidents).....
15. Personnel accident rate.....
16. Job satisfaction.....
17. Reenlistments/turnover.....
18. Morale.....

19. Absenteeism.....
20. Tardiness.....
21. Sick call.....
22. Amount of grievances.....
23. Aircraft cleanliness.....
24. Hanger or work area cleanliness.....

Below are the same list of criteria and rating scale as before. This time, however, we want you to rate each one of the items to show:

How important each criteria would be in your evaluation of the overall effectiveness of a helicopter maintenance unit under war time conditions

Again, assume information would be available about the maintenance unit. List any other criteria and rate them.

| | | | | | | | |
|---------------------|------------------------------|-------------------------|-----------------------|---------------------------|-------------------------------|-------------------|------------------------|
| OF NO IMPORTANCE | OF VERY LITTLE IMPORTANCE | OF LITTLE IMPORTANCE | OF SOME IMPORTANCE | OF MODERATE IMPORTANCE | OF CONSIDERABLE IMPORTANCE | VERY IMPORTANT | EXTREMELY IMPORTANT |
| 1----- | 2----- | 3----- | 4----- | 5----- | 6----- | 7----- | 8----- |

Organizational Effectiveness/Efficiency Criteria (War Time)

1. Maintenance man hours per aircraft.....
2. Maintenance man hours per flight hour.....
3. Availability.....
4. Readiness.....
5. Mean time to repair.....

6. Down time.....
7. Parts consumption.....
8. Missions flown per month.....
9. Flight hours per month.....
10. Number of helicopters in for repair at any one time.....
11. Number of complaints from pilots or from the unit to which
the aircraft belongs.....
12. Number of good parts replaced.....
13. Number of work orders completed per day/week/month.....
14. Aircraft accident rate (i.e., flight hours between
accidents).....
15. Personnel accident rate.....
16. Job satisfaction.....
17. Reenlistments/turnover.....
18. Morale.....
19. Absenteeism.....
20. Tardiness.....
21. Sick call.....
22. Amount of grievances.....
23. Aircraft cleanliness.....
24. Hanger or work area cleanliness.....

APPENDIX D
WEEKLY PERFORMANCE SUMMARY

WEEKLY PERFORMANCE SUMMARY

NAME OF MAINTENANCE UNIT _____
 MAINTENANCE SUPERVISOR _____
 WEEK OF _____ RETURN BY _____

| PERFORMANCE MEASURES | MON | TUES | WED | THURS | FRI | SAT | SUN |
|---|-----|------|-----|-------|-----|-----|-----|
| NUMBER OF OH-58 MAINTENANCE PERSONNEL | | | | | | | |
| NUMBER OF OH-58 MAINTENANCE PERSONNEL WHO WORKED THE FULL SHIFT | | | | | | | |
| NUMBER OF HOURS WORKED FOR THAT SHIFT | | | | | | | |
| NUMBER OF WORK ORDERS RECEIVED | | | | | | | |
| NUMBER OF WORK ORDERS COMPLETED | | | | | | | |
| NUMBER HELICOPTERS FLOWN | | | | | | | |
| NUMBER OF FLIGHTS | | | | | | | |
| NUMBER OF FLIGHT HOURS | | | | | | | |
| NUMBER OF HELICOPTERS OPERATIONALLY READY | | | | | | | |

APPENDIX E
SUMMARY OF DA FORM 1352

BASE _____

UNIT _____

| MONTH/YR | # OH58 | TOTAL # OF HRS AVAIL | OR | NORS | NORM | # FLT/HRS | # LANDINGS |
|----------|--------|-------------------------|----|------|------|-----------|------------|
| JAN | | | | | | | |
| FEB | | | | | | | |
| MAR | | | | | | | |
| APR | | | | | | | |
| MAY | | | | | | | |
| JUNE | | | | | | | |
| JULY | | | | | | | |
| AUG | | | | | | | |
| SEP | | | | | | | |
| OCT | | | | | | | |
| NOV | | | | | | | |
| DEC | | | | | | | |